

translation (so called) is the most cramped, while the most literal rendering is the most bold, and faithful, and forcible.

---

 XX.

THE MANUFACTURE OF SULPHURIC ACID  
AND STEARINE CANDLES.

---

BY A. K. SMITH, C.E., &c. &c.

---

READ JUNE 7, 1855.

---

IT may seem somewhat strange that I should have chosen such a subject for a few brief observations to-night, and it does at first sight appear somewhat anomalous, that a gas engineer should recommend the establishment of a manufactory for the production of light other than gas. Still I feel certain that you will join with me in taking a more liberal view of the matter than the contracted one of advocating the introduction of one branch of manufacture at the expense of another. Personally interested as I am in coal gas and its manufacture, I fear no rival, well knowing that the £ s. D. test (independent of the convenience and safety of gas) will be the great champion in the cause.

In the moral, as in the physical world, the first mandate is equally applicable—"Let there be light"—and not only darkness but vice will be diminished. Implicitly believing in the assertion, I consider I am only doing my duty as a member of society, in pointing out to those who will not be in a po-

sition to avail themselves of gas when the city is lighted, the means of obtaining a good substitute at a cheap rate; that such a substitute can be manufactured cheaper than we can import it, I propose to make manifest.

If we refer to the statistical accounts of colonial produce exported from Victoria in the four years of 1850-1-2-3, we will find that no less than 11,096 tons of tallow were exported, the average value of which is estimated at  $3\frac{1}{2}$ d. per lb., and that in 1855, to the 19th May, 446 tons were shipped from the port of Melbourne alone. The imports of candles during the same dates amount to nearly 3,000 tons, and the quantity, for the first quarter of 1855, received into the port of Melbourne alone, is 341 tons, at an estimated cost to the public of 2s. per lb. (the present selling price being 3s.), amounting collectively to £76,384, upon which the public lose, as a minimum, not less than £29,644, independent of losing at least sixteen and a half per cent. in the tallow shipped. Mr. P. A. Walker, in the *Argus* of June 5th, in remarking the inconsiderable quantity of tallow at present exported, in comparison with the time when boiling down was practised, proceeds to say—"However, as roads are improved in the interior, and the expenses of transit lessened, the quantity will increase, and form, as before, an important item in our exports. From the reports of individuals to be relied on, the quantity of 'butchers' fat' wasted in the neighbourhood of the various diggings is immense, and, if it could be conveyed to Melbourne, would prove a source of employment and wealth, whereas now it is only a generator of disease in the neighbourhood where it is wasted." I am led to notice these remarks, in order to prove that we have the raw material for the proposed manufacture, and that the demand for the manufactured article would equal the supply even *where* the stimulus of a higher price was offered.

With this preface I will now proceed to make a few remarks on the manufacture of sulphuric acid and stearine candles:

in doing so I beg to acknowledge the co-operative assistance of a French chemist, Monsieur Francis Maudit. The speculation I am about to propose would be of benefit to the colony at large by furnishing a necessary article at a reasonable price, as well as proving remunerative to the parties engaged therein, independent of a handsome interest or profit on the capital invested. As before mentioned, one of the principal articles this colony exports is tallow, notwithstanding that the produce does not at present far exceed the wants of the colony. It is returned to us in the shape of stearine candles, thereby causing the public of this colony to bear all the expenses resulting from the double transit, and to lose the profits which all parties engaged in this traffic must reap.

As to the expenses of this manufacture, it would be far better that the money should remain in the colony. Nor is this all, for it is the supposition that the importation will be regulated by the consumption and a fair and regular price maintained, which is not the case, for the public are sometimes obliged to pay double and treble the cost price of these articles, to the entire benefit of a few individuals engaged in this commerce, who make as it were a monopoly of the trade, which so largely remunerates them, and they will no doubt endeavour to keep things in this state as long as possible, if a stop is not speedily put to this abuse by the only means which would attain that end, that is to say, by the establishment of a manufactory of stearine candles in this city.

It will be perceived at a glance, that all these abuses would be put down at the moment a manufactory, established here, began to furnish the market. A fair price would be maintained, which, in the end, would bring the said manufactory in direct competition with the English market, with which, however, it would be able to cope, leaving large profits to the parties engaged in it. This is what I propose to prove by the calculations which will follow. To carry out the above it would be, however, necessary to make the sulphuric acid re-



## PRODUCE.

Stearine candles	900 lbs.	
Oil .....	1100 „	

Should any sulphuric acid remain after deducting for the above and the supply of the market, we could employ it for the manufacture of crude soda and muriatic acid, or restrict the quantity made to the exact demand. Without entering into the details of the materials required, I shall merely state that we could manufacture

1650 lbs. crude soda, cwt. $14\frac{2}{3}$	}	£16 1 0
1500 „ muriatic acid, at 22		

The surplus muriatic acid, after the supply of the market, could be made use of for the extraction of gelatine from bones. I will now recapitulate the daily expenses, adding thereto the incidental expenses and the produce, to see the profits of the undertaking:—

Manufacture of 2170 lbs. sulphuric acid .....	£7 9 0
Interest of £2,000, at ten per cent. per diem .....	0 11 0
Manufacture of candles .....	70 2 4
Interest of £3,000, at ten per cent. per diem .....	0 16 6
Clerks and office expenses, at £600 per annum .....	1 13 0
	<hr/>
	£80 11 10

## PRODUCE.

Stearine candles, 900 lbs., at 1s. 3d., per lb. ....	56 5 0
Oil, 1,100, at £40 per ton .....	20 0 0
Surplus acid, 1,500 lbs., at 2d. per lb. ....	12 10 0
	<hr/>
	88 15 0
Sale of produce .....	88 15 0
Expenses .....	80 11 10
	<hr/>
Profits per diem .....	8 3 0

In conclusion, I will beg leave to state that the profits could not be less, and may be greater, seeing that I have rather exaggerated the expenses than otherwise, which fairly bears

out what I stated in the commencement, viz., that this undertaking would be highly remunerative to the capitalist who would engage in it, as well as result in great benefits to the public of this colony.